Approved for use through 10/31/99. OMB 0651-0031

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Substitute	Substitute for form 1449A/PTO			Complete if Known				
				Application Number	To be assigned			
INFC	RMATION	N DISC	CLOSURE	Filing Date	Concurrently herewith	0		
STA	TEMENT E	BY AP	PLICANT	First Named Inventor	Ronald Alan COFFEE	Ď.		
				Group Art Unit	To be assigned	·F		
	(use as many s	heets as r	necessary)	Examiner Name	To be assigned			
Sheet	1 1	of	9	Attorney Docket Number	BER-3.5.009/3714	, 16		

		· · · · · · · · · · · · · · · · · · ·			<u></u>
			 U.S. PATENT DOCUM	MENTS	
Examiner C	xaminer Cite U.S. F		Name of Patentee or Applicant	Date of Publication of	Pages, Columns, Lines, Where Relevar
Initials * N	No.1	Number Kind Co	of Cited Document	Cited Document MM-DD-YYYY	Passages or Relevant Figures Appear
		5,712,137	BARLOW et al	27 JAN 1998	
		6,039,972	BARLOW et al	21 MAR 2000	
					
		-			
		, , , , ,			

	FOREIGN PATENT DOCUMENTS									
		For	eign Patent Do	ocument	Name of Patentee	Date of Publication of	Pages, Columns, Lines,			
Examiner Initials*	Cite No. ¹	Office ³	Number⁴	Kind Code ⁵ (if known)	or Applicant of Cited Document Cited Document MM-DD-YYYY		Where Relevant Passages or Relevant Figures Appear	T ₆		
								.		
		1								
			<u></u>				<u> </u>			
							***-	_		

Examiner Signature	1/45	Date Considered	ろりて	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include conformance with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark hee if English language Translation is attached.

Form PTC	-1449 U.S. [Pate	Department of Commerce ent and Trademark Office	Docket	Number:		Serial	Number: To be	Assigned
			Applica	Applicant: Ronald Alan COFFEE				
	TION DISCLOSURE (CITATION	Filing C	Pate: Concurrently he	erewith	Group	Art Unit: To be	Assigned
			U.S. PATENT	DOCUMENTS				
EXMR.	DOCUMENT NUMBER	DATE		NAME	į	CLASS	SUBCLASS	FILING DATE
	6,079,634	06/27/	00	Noakes et al.		239		
	<u> </u>							
	· · · · · · · · · · · · · · · · · · ·							
		-						
			į					
							-	
							-	
								-
		FO	REIGN PATE	NT DOCUMENTS		1		
	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANS YES	LATION	NO
		OTHER DO	CUMENTS (Inc	luding Author, Title, Date, Pertinent	t Pages, etc.)			
-						-	·	
		- · · · · · · · · · · · · · · · · · · ·		ж.		-		
-	<u>-</u>							
- 1	1							

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

- 3	
et ¯	of

			<u> </u>
Form PTO-1449	U.S. Department of Commerce Patent and Trademark Office	Docket Number:	Serial Number:
	N 00 175 0 7 17 10 11	Applicant: Ronald Coffee	
INFORMATION DISC (Use several sheets if nece		Filing Date:	Group Art Unit:

U.S. PATENT DOCUMENTS

EXM R. INTL.	DOCUMENT NUMBER	DATE	NAME .	CLASS	SUBCLASS	FILING DATE
W	4,226,721	5/12/81	Sickles			
	3,096,762	7/9/63	Winchell		1	
	3,232,292	2/1/66	Scheaefer			
	5,044,564	9/3/91	Sickles			
	5,267,555	12/7/93	Pajalich			
	5,531,789	1/17/95	Marquardt			
	4,659,012	4/21/87	Coffee			
	4,671,289	6/9/87	Wilp			
	4,979,680	12/25/90	Bauch et al.			
	4,186,886	2/25/80	Sickles			
	4,073,002	2/7/78	Sickles et al.			
	4,846,407	7/11/89	Coffee et al.			
	3,837,573	9/24/74	Wagner			
	4,476,515	10/9/84	Coffee			
	5,483,953	1/16/96	Cooper			
	3,456,646	7/22/69	Phillips et al.			
	5,222,663	6/29/93	Noakes et al.			
	5,409,162	4/25/95	Sickles			
	4,779,515	10/11/88	Michalchik			-
	3,897,905	8/5/75	Tadewald			
	4,509,694	4/9/85	Inculet et al.			
	4,801,086	1/31/89	Noakes			
	4,508,265	4/2/85	Jido '			

			Sheet 4 of 9
4,203,398	5/20/80	Maruoka	<i>A</i>
5,930,061	12/30/75	Scharfenberger	
5,086,972	2/11/92	Chang et al.	
4,962,885	10/15/90	Coffee	
4,748,043	5/31/88	Seaver et al.	
4,735,364	4/5/88	Marchant	
4,549,243	10/22/85	Owen et al	
4,467,961	8/28/84	Coffee et al.	
4,439,980	4/3/84	Biblarz et al.	
4,356,528	10/26/82	Coffee	
4,150,644	4/24/79	Masaki et al.	
3,958,959	5/25/76	Cohen et al.	
4,749,125	6/7/88	Escallon et al.	
2,749,125	11/15/55	Ransberg	
2,945,443	7/19/60	Aver, et al.	
3,131,131	4/28/84	Wehner	
4,198,781	4/22/80	Dykes	
4,380,786	4/19/93	Kelly	
4,703,891	11/3/87	Jackson, et al.	
4,830,872	5/16/89	Grenfell	
5,115,971	5/26/92	Greenspan, et al.	
5,180,288	1/19/93	Richter, et al.	
5,402,945	4/4/95	Swanson	
4,565,736	1/21/86	Stein, Karl H., et al.	
4,549,243	10/22/85	Owen, et al.	
4,044,404	8/30/77	Martin, et al.	
4,043,331	8/23/77	Martin, et al.	
3,958,959	5/25/76	Cohen et al.	

				Shee	t 5 of 9	
W	3,897,905	8/5/75	Tadewald			
	3,456,646	7/22/69	Phillips et al)		
	4,657,793	4/14/87	Fisher, Anthony C.			
	5,655,517	8/12/97	Coffee			

FOREIGN PATENT DOCUMENTS

 			···-			
DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES	NO NO
EP 0029301A1	5/27/81	European Patent Office				
EP 0120 633 A2	10/3/84	European Patent Office				
EP 523964A1	1/20/93	European Patent Office				
SU 1005939A	6/29/81	Soviet Union				
UK 1569707	6/18/80	United Kingdom				
UK 2018627B	10/24/79	London				
EP 0234842	9/2/87	European Patent Office				
EP 0029301A1	5/27/81	European Patent Office				
WO 91/07232	5/30/91	WIPO				:
P 2008769	9/30/70	Germany				
UK 1297993	11/29/72	United Kingdom				
DE 4106564A1	9/3/92	Germany				
EP 02050164A3	12/23/87	European Patent Office				
EP 0523963A1	7/14/92	European Patent Office				
WO 92/15339	9/17/92	WIPO				
EP 0523962A1	1/20/93	European Patent Office				
EP 0250102 A	12/23/87	European Patent Office				
EP 0234841a	9/2/87	European Patent Office				

,,				Sheet 6 of 9
~	EP 0234842	9/2/87	European Patent Office	
-V.	EP 0523962A1	1/20/93	European Patent Office	
	EP 0523963A1	7/14/92	European Patent Office	
	EP 523964A1	1/20/93	European Patent Office	
	WO 91/07232	5/30/91	WIPO	
	WO 93/00937	4/15/93	WIPÖ	
	WO 9412285	6/9/94	WIPO	
	WO94 13266A	6/23/94	WIPO	
	WO 94 14543A	7/7/94	WIPO	
	WO 95 26235A	10/5/95	WIPO	
	WO 9532807	12/7/95	WIPO	
	WO 9526235	10/5/95	WIPO	
	WO 9907478	2/18/99	WIPO	
	0 102 713 B1	9/2/87	UK	
	2 128 900 A	5/10/84	UK	
	2 201 873 A	9/14/88	UK	
	GB 1569707	6/18/80	Great Britain	
VV	GB 2018627B	4/15/82	Great Britain	

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

7	WO 95 26235 A	10/05/95	World Intellectual Property Organization			
	WO 9532807	12/07/95	World Intellectual Property Organization			
	WO 9526235	10/05/95	World Intellectual Property Organization			
	WO 9907478	02/18/99	World Intellectual Property Organization			
	0 102 713 B1	09/02/87	United Kingdom			
	UK 1297993	11/29/72	United Kingdom			
	UK 1569707	06/18/80	United Kingdom			
	UK 2018627A	10/24/79	United Kingdom	/	<u>{</u>	
	2 128 900 A	05/10/84	United Kingdom.			
	2 201 873 A	09/14/88	United Kingdom			
	GB 1569707	06/18/80	Great Britain			
	GB 2018627B	04/15/82	Great Britain			
	NZ 195704	12/01/80	New Zealand	/		
	NZ 198774	10/27/81	New Zealand			
	NZ 191545	06/04/84	New Zealand			
	SU 1005939A	06/29/81	Soviet Union			
	P 2008769	09/03/70	Germany			
	DE 4106564A1	09/03/92	Germany			

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

(_	DATABASE WPI, Week 9602, Derwent Publications Ltd., London, Great Britain; An 96-018586, XP002046662 & RU 2 034 534 A (EKOMEDSERVIS), 5 October 1995
V	DATABASE WPI, Week 9544, Derwent Publications Ltd., London , Great Britain; AN 95-342809, XP002046663 & RU 2 031 661 A (EKOMEDSERVIS), 27 March 1995
V	Patent Abstracts of Japan, vol. 015, no. 392 (C-0873), 4 October 1991 and JP 03 161502 A (ICI Japan KK), 11 July 1991
	Article entitled: Electro-osmosis Controls Fluid in Novel Transducer Concept by Product Engineering, dated July 4, 1970 authored by: Ray Lewis, Cleveland; pages 71-72

V-	Article entitled: <u>Electrodynamic Crop Spraying,</u> dated 1981; authored by: R. A. Coffee; Reprinted from Outlook on Agriculture Vol. 10, No. 7, 1981; includes excerpt pgs. 350-356
V	Article entitled: Charging liquid Spray by Electrostatic Induction authored by: S. E. Law and H. D. Bowen; taken from Transactions of the ASAF; pgs. 501-506; dated 1966
EXAMINER:	DATE CONSIDERED: 3111 Gitation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

Form PTO-1449 U.S. Department of Commerce Patent and Trademark Office			Docket Number:				Serial Number:		
			Applic	ant:					
	MATION DISCLOSURE CITATION ral sheets if necessary)		Filing	Date:		•	Grou	p Art Unit:	
			U.S. PATE	NT DOCUMENTS					
EXMR. INTL.	DOCUMENT NUMBER	DATE		NAME		CLASS	SUBC	LASS	FILING DATE
						·			
i									
						-			
		·							
						,			
					-				
		FC	REIGN PA	TENT DOCUMENTS			1.		1
	DOCUMENT NUMBER	DATE		COUNTRY	CLASS	SU	JBCLASS	TF YES	RANSLATION NO
L	2 128 900 A	05/10	0/84	U.K					
L	2 201 873 A	09/14	4/88	U.K.					
<u></u>	0 102 713 B1	09/02		U.K.					
		OTHER DO	CUMENTS	(Including Author, Title, Date, Pertine	ent Pages, etc.)				<u>1</u>
1	Article entitled: <u>Electro-osmosis (</u> by: Ray Lewis, Cleveland; pages	Controls Flui 71-72	id in Novel	Transducer Concept b	y Product Engi	neering, date	ed July 4, 1	970 autho	red
)) 	Article entitled: Electrodynamic C No. 7, 1981; includes excerpt pgs	rop Sprayin . 350-356	<u>g,</u> dated 19	81; authored by: R. A.	. Coffee; Reprir	nted from Out	tlook on Ag	riculture V	/ol. 10,
		_							
	1								
EXAMINER	DATE CONSIDERE	_{D:} 4/5	104						
EXAMINER	the initial if citation confidered, whether or not citation is in conforman	ce with MPEP & 609	9: Draw line through	n citation if not in conformance and no	at considered include con	ov of this form with nex	d communication t	to the applicant	

e a plus sign (+) inside this box
Under the Paperwork Reduction Act of 1995, no pass

Approved for use through 10/31/99. OMB 0651-0031*
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

nder the Paperwork Reduction Act of 1995, no passons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

AU6: 0 1 2001

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

	(
Sheet	1	of	1

	Complete if Known)
Application Number	09/758,716	
Filing Date	January 11, 2001	
First Named Inventor	Ronald Alan COFFEE	
Group Art Unit	3761	
Examiner Name	To be assigned	
Attorney Docket Number	BER-3.5.009/3714	

				U.S. PATENT DOCU	MENTS		
	Cito		U.S. Pa	atent Document	Name of Patentee or Applicant	Date of Publication of	Pages, Columns, Lines, Where Relevant
Examiner Initials *	Cite No.1	Number	Kind Code ² (if known)	of Cited Document	Cited Document MM-DD-YYYY	Passages or Relevant Figures Appear	
~		5,511,7		Greenspan, et al	30 APR 1996		
	ļ						
	<u> </u>						
	 			-		TECHNOLO	
	 					- 3	
						<u> </u>	
	ļ					<u> </u>	
						CENTER	
	ļ					<u> </u>	
	-					 	
	 				 		
						R3 700	
	ļ						
				ŀ			

FOREIGN PATENT DOCUMENTS								
Examiner Cite No.1	Cita	For	eign Patent De	ocument	Name of Patentee	Date of Publication of	Pages, Columns, Lines,	
	Office ³	Number⁴	Kind Code ⁵ (<i>if known</i>)	or Applicant of Cited Document	Cited Document MM-DD-YYYY	Where Relevant Passages or Relevant Figures Appear	Т ₆	
		ļ						
								<u> </u>
						-		
							- · · · · · · · · · · · · · · · · · · ·	
							·	<u> </u>
-								 -
	 					-		l — —

,	V		
Examiner Signature	MS	Date Considered	3/17/18

EXAMINER: Initial interence considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark hee if English language Translation is attached.

COPY OF PAPERS ORIGINALLY FILED

ope a plus sign (+) inside this box

PTO/SB/08A (10-96)

Approved for use through 10/31/99. OMB 0651-0031

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

ostitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 2

Complete if Known				
Application Number	09/758,716			
Filing Date	January 11, 2001			
First Named Inventor	Ronald Alan COFFEE			
Group Art Unit	3761			
Examiner Name	To be Assigned			
Attorney Docket Number	103202-45389			

	U.S. PATENT DOCUMENTS						
Examiner Initials *	Cite No.1	U.S. Patent Document Number Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevan Passages or Relevant Figures Appear		
		4,956,128	Hornmel et al	11 SEP 1990			
1		4,789,550	Hommel et al	06 DEC 1988			
1		4,878,908	Martin et al	07 NOV 1989			
1		5,311,884	Scopelianos	17 MAY 1994			
1	1	5,522,879	Scopelianos	04 JUN 1996			
		5,024,671	Tu et al	18 JUN 1991			
	1	5,376,116	Poler	27 DEC 1994			
		5,575,818	Pinchuk	19 NOV 1996			
		5,632,772	Alcime et al	27 MAY 1997			
	1	5,639,278	Dereume et al	17 JUN 1997			
h		5,724,004	Reif et al	03 MAR 1998			
	1						
	-	 					

FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No.1	For Office ³	eign Patent Document Number ⁴ Kind C	Name of Patentee or Applicant of	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ₆
ا ــــا		EP	0542514 A1	Ethicon Inc.	19 MAY 1993	Whole document	
					 		
	 	+	 				

	1			
Examiner Signature	1	\mathcal{M}	Date Considered	3/18/05

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark hee if English language Translation is attached.



COPY OF PAPERS ORIGINALLY FILED



PTO/SB/08A (10-96)

0-96)

Approved for use through 10/31/99. OMB 0651-0031 Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO		Complete if Known		
	001105	Application Number	09/758,716	
INFORMATION DISCI		Filing Date	January 11, 2001	
STATEMENT BY APP	LICANT	First Named Inventor	Ronald Alan COFFEE	
		Group Art Unit	3761	
(use as many sheets as nec	essary)	Examiner Name	To be Assigned	
Sheet 2 of 2		Attorney Docket Number	103202-45389	

OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS						
Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²				
	Journal of Controlled Release - 43 (1997) 183-196 "An examination of factors affecting the size, distribution and release characteristics of p0olymer microbeads made using electrostatics B.G. Amsden, M.S.A. Goosen					
-						
		Cite No. Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. Journal of Controlled Release - 43 (1997) 183-196 "An examination of factors affecting the size, distribution and release characteristics of poolymer microbeads made using electrostatics				

Examiner Signature	$\not X$	M	Date Considered	3/11/13	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.